

REMARKS

Claim Status

Upon entry of this amendment, claims 1, 11 and 12 have been amended; claims 1-12 remaining pending. It is believed that no new matter has been introduced and the amendments are fully supported by the specification. It should be further understood that the amendments herein have been made to clarify claim language and not to limit or narrow the scope of the claims, and, thus, they should not be interpreted as narrowing claim amendments.

35 USC §102 Rejection

Claims 1-12 are rejected under 35 USC §102(e) as being anticipated by Riciulli (U.S. Pat. No. 6,275,470). For at least the reasons set forth below, Applicant respectfully traverses the foregoing rejection and submits that these claims are now patentable over the cited art.

With respect to claim 1, it is alleged that all the elements as recited in claim 1 are disclosed by Riciulli. As will be explained below, Applicant respectfully submits that at least one or more of the elements as recited in amended claim 1 are not disclosed or suggested by Riciulli. For example, it is alleged that Riciulli discloses ascertaining the identity of the intervening network components in the network paths between the message source and each of the candidate overlay route processors. Further review of the cited excerpts, however, does not support the examiner's position. Col. 11, lines 50-66, merely disclose that the Riciulli system can find overlay forwarding paths that reduce total transmission delay; and col. 4, lines 65-67 and col. 5, lines 1-4, merely state that the Riciulli system creates a new forwarding path between endpoints. These cited excerpts do not disclose or suggest ascertaining the identity of the intervening network components in the network paths between the message source and each of the candidate overlay route processors.

In another aspect, it is alleged that Riciulli discloses selecting a number of overlay route processors based on minimizing the number of overlapping intervening network components in the network paths between the message source and the selected overlay route processors by analyzing the ascertained identities of the intervening network components. Further review of the cited excerpt, however, does not support the examiner's position. Col. 6, lines 4-65, merely disclose an embodiment of the Riciulli system in which each overlay node module 150 measures the cost of communication to all other overlay router nodes. A pruned overlay node topology with a reduced number of overlay nodes is then determined and used for alternate path discovery. Neither

measuring the cost of communication between overlay nodes nor reducing the number of overlay nodes is the same as minimizing the number of overlapping intervening network components in the network paths between the message source and the selected overlay route processors. Furthermore, it should be noted that, under the Riciulli system, the alternate paths (and the associated overlay nodes) are discovered independently of one another. The Riciulli system does not disclose or suggest selecting the alternate paths based on a minimized number of overlapping intervening network components amongst various alternate paths. The present invention as recited in claim 1, on the other hand, selects the overlay route processors such that the number of overlapping intervening network components amongst various network paths are minimized. Therefore, the cited excerpt does not disclose or suggest yet another element of claim 1.

In yet another aspect, it is alleged that Riciulli discloses transferring a message from the message source to the selected overlay route processors along the network paths with a minimized number of overlapping intervening components. Claim 1 has been amended to clarify that copies of a message are transferred from the message source to the selected overlay route processors in parallel. The cited excerpts do not disclose or suggest the foregoing feature. Col. 2, lines 28-46, merely disclose discovering and using a single optimized path for sending transmission. Similarly, col. 7, lines 10-13 and Fig. 4a, merely disclose discovering a number of alternate paths, but do not disclose or suggest sending copies of a message in parallel to selected overlay nodes.

Since one or more features of claim 1 as amended are not disclosed or suggested by Riciulli, Applicant respectfully submits that claim 1 is now patentable over the cited art.

With respect to claim 2, this claim depends from claim 1 and hence at least derives its patentability therefrom. Therefore, claim 2 is also patentable over the cited art. Notwithstanding the foregoing, claim 2 on its own is also patentable over the cited art. It is alleged that Riciulli discloses selecting a number of overlay route processors with zero overlapping intervening network components in the network paths between the message source and the selected overlay route processors. Further review of the cited excerpts, however, does not support the examiner's position. Applicant respectfully disagrees with the examiner's characterization of the cited excerpts. None of the cited excerpts discloses or suggests selecting overlay route processors with zero overlapping intervening network components in the network paths. FIG. 1 merely shows the overlay nodes as being separate. Col. 7, lines 66-67, col. 8, lines 1-67 and col. 9 lines 1-8, merely disclose a one-hop path and a multi-hop path. There is no mention of making a selection based on zero overlapping

intervening network components. To the contrary, as stated in col. 3, lines 50-53, overlay network nodes 130a-n utilize existing network transmission lines and infrastructure, via network lines 135a-n, to create a virtual topology. The fact that the overlay nodes are shown as being separate does not necessarily mean that, under the virtual topology, such nodes do not share common or overlapping network transmission lines and infrastructure. Hence, claim 2 on its own is also patentable over the cited art.

With respect to claim 3, this claim depends from claim 1 and hence at least derives its patentability therefrom. Therefore, claim 3 is also patentable over the cited art.

With respect to claim 4, this claim depends from claim 1 and hence at least derives its patentability therefrom. Therefore, claim 4 is also patentable over the cited art. Notwithstanding the foregoing, claim 4 on its own is also patentable over the cited art. It is alleged that Riciulli discloses ascertaining the identity of the intervening network components including intervening routers, intervening switches and intervening firewalls. Further review of the cited excerpt, however, does not support the examiner's position. Col. 5, lines 21-38, merely disclose how to find an improved path. There is no mention of ascertaining the identity of intervening network components such as routers, switches and firewalls. Therefore, claim 4 on its own is also patentable over the cited art.

With respect to claim 5, this claim depends from claim 1 and hence at least derives its patentability therefrom. Therefore, claim 5 is also patentable over the cited art. Notwithstanding the foregoing, claim 5 on its own is also patentable over the cited art. It is alleged that Riciulli discloses selecting a number of overlay route processors based on minimizing the number of overlapping intervening network components between the message source and the selected overlay route processors and on minimizing the number of intervening network components. Further review of the cited excerpt, however, does not support the examiner's position. As previously discussed above, col. 6, lines 4-65, merely disclose an embodiment of the Riciulli system in which each overlay node module 150 measures the cost of communication to all other overlay router nodes. A pruned overlay node topology with a reduced number of overlay nodes is then determined and used for alternate path discovery. Neither measuring the cost of communication between overlay nodes nor reducing the number of overlay nodes is the same as minimizing the number of overlapping intervening network components in the network paths between the message source and

the selected overlay route processors and minimizing the number of intervening network components. Therefore, claim 5 on its own is also patentable over the cited art.

With respect to claim 6, this claim depends from claim 1 and hence at least derives its patentability therefrom. Therefore, claim 6 is also patentable over the cited art. Notwithstanding the foregoing, claim 6 on its own is also patentable over the cited art. It is alleged that Riciulli discloses selecting a number of overlay route processors based on minimizing the number of overlapping intervening network components between the message source and the selected overlay route and on maximizing the transmission speed between the message source and the selected overlay route processors. Further review of the cited excerpt, however, does not support the examiner's position. As previously discussed above, col. 6, lines 4-65, merely disclose an embodiment of the Riciulli system in which each overlay node module 150 measures the cost of communication to all other overlay router nodes. A pruned overlay node topology with a reduced number of overlay nodes is then determined and used for alternate path discovery. Neither measuring the cost of communication between overlay nodes nor reducing the number of overlay nodes is the same as minimizing the number of overlapping intervening network components in the network paths between the message source and the selected overlay route processors and maximizing the transmission speed between the message source and the selected overlay route processors. Therefore, claim 6 on its own is also patentable over the cited art.

With respect to claim 7, this claim depends from claim 1 and hence at least derives its patentability therefrom. Therefore, claim 7 is also patentable over the cited art. Notwithstanding the foregoing, claim 7 on its own is also patentable over the cited art. It is alleged that Riciulli discloses ascertaining the IP-address identity of the intervening network components. Further review of the cited excerpts, however, does not support the examiner's position. Col. 5, lines 30-35, merely state that a forwarding path query message includes a destination address and a source address; col. 7, lines 58-65, merely state that the Riciulli system uses encapsulation whereby an original destination IP address is substituted with a different destination IP address. There is no mention of ascertaining the IP-address identity of the intervening network components. Therefore, claim 7 on its own is also patentable over the cited art.

With respect to claims 8, 9 and 10, these claims depend from claims 1 and/or 7 and therefore at least derive their patentability therefrom. Hence, claims 8, 9 and 10 are also patentable over the cited art.

With respect to claim 11, the same rationale and arguments as discussed in connection with claims 1 and 7 similarly apply with equal force. Hence, claim 11 as amended is also patentable over the cited art.

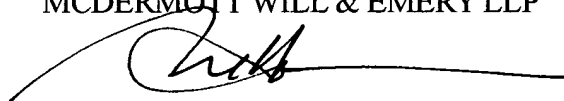
With respect to claim 12, this claim depends from claim 11 and therefore at least derives its patentability therefrom. Hence, claim 12 as amended is also patentable over the cited art. Notwithstanding the foregoing, the same rationale and arguments as discussed in connection with claim 2 similarly apply with equal force. Hence, claim 12 as amended on its own is also patentable over the cited art.

Conclusion

In view of the foregoing, Applicant believes all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at the telephone number provided below.

Respectfully submitted,

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